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Little attention has been given to Attention-Deficit/Hyperactivity Disorder (AD/HD) and its impact on marital functioning. This is in spite of large amounts of anecdotal and some recent empirical evidence suggesting adults with AD/HD are more likely to divorce and have marital dysfunction. The current study assessed the impact of AD/HD on the process of marital coping and marital satisfaction. Hypotheses asserted that affected couples will display poorer overall satisfaction and coping as compared to control couples. Furthermore, dyadic coping would mediate the relationship between AD/HD and lower satisfaction. Analyses suggest that AD/HD couples report significantly poorer satisfaction and coping than control couples, as well as increased symptoms of depression. Furthermore, coping does not seem to account for the relationship between AD/HD and satisfaction. Clinical implications and future directions are discussed.

DYADIC COPING AMONG ADULTS WITH ATTENTION-
DEFICIT/HYPERACTIVITY DISORDER

by

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CHAPTER I

INTRODUCTION

Attention-Deficit/Hyperactivity Disorder (AD/HD; APA, 2000) is a condition characterized by developmentally deviant levels of inattention and/or hyperactivity-impulsivity that have an onset in early childhood, are chronic and pervasive across settings, and cause impairment in multiple domains of functioning. Research has shown that the impact of AD/HD is not limited to the affected individual's functioning, but may also have a profound impact on family relationships and overall family functioning. Families of children with AD/HD are characterized by heightened levels of conflict (Johnston & Mash, 2001; Smith, Brown, Bunke, Blount & Christopherson, 2002), increased parenting stress and increased maternal depression (Barkley, Murphy & Fisher, 2008; Cunningham & Boyle, 2002). Studies also indicate that having a child with AD/HD may impact a parent's ability to maintain a healthy and stable marital relationship. Specifically, having a child with AD/HD is related to marital conflict, separation and divorce, as well as a more negative emotional climate (Barkley et al., 2008; Barkley et al., 1990; Befera & Barkley, 1984; Brown, 2005; Lahey et al., 1988; Taylor et al., 1991). This has commonly been attributed to elevated parenting stress and disturbances in family interactions that are primarily in response to the child's maladaptive behavior (Barkley, 2006).

However, it is vital that we begin to evaluate the way in which adult symptoms may also contribute to family dysfunction. The relationship between child symptoms and parent functioning is bidirectional and may be confounded by either parent's diagnoses.

One particularly essential variable of interest is the presence or absence of AD/HD symptoms in parents of children with AD/HD. The likelihood that a child with AD/HD may also have a parent affected by adult AD/HD is fairly high (Biederman et al., 1992; Nigg, 2006). As many as 15-20% of mothers of children with AD/HD, and 20-30% of fathers of children with AD/HD may also meet diagnostic criteria (Biederman et al., 1992). Therefore, parental AD/HD could affect both marital functions and parent-child interactions, thereby helping to explain some of the marital findings in the child AD/HD literature.

Preliminary evidence suggests that adult AD/HD has a negative impact on marital functioning (Dixon, 1995; Ratey, Hallowell, & Miller, 1995; Weiss, Hechtman, & Weiss, 1999). Adults with AD/HD seem to experience higher rates of divorce and remarriage than controls (Biederman et al., 1993; Murphy & Barkley, 1996). Furthermore, studies suggest that adult AD/HD may be related to unequal distribution of household tasks and lower levels of emotional support (Weiss et al., 1999). More recently, studies have shown lower levels of satisfaction in marriages of adults with AD/HD (Eakin et al., 2004; Minde et al., 2003).

Although it seems that adult AD/HD has a negative impact on marital functioning, many issues remain unclear. Current research has not assessed the processes through which AD/HD may impact marital satisfaction and functioning. Furthermore,

methodological inconsistencies plague the adult literature, as there are no standard practices in assessment or inclusion of information on comorbidity and other important variables. In order to address these concerns, this project was designed to assess possible processes through which AD/HD may impact marital functioning, while taking into account comorbidity, marriage length and number of previous marriages, number of children, medication use, and using assessment tools based upon DSM-IV criteria to carefully assess AD/HD.

In order to examine the impact of adult AD/HD on marital process, it is first necessary to review general information on AD/HD, including diagnosis and associated areas of impairment. Available empirical findings and anecdotal evidence on marital dysfunction within the AD/HD population will be presented next. This will be followed by an examination of normal marital processes. Against this background, hypothetical pathways through which marital dysfunction may occur will be examined.

Attention-Deficit/Hyperactivity Disorder

Diagnostic Issues and Comorbidity

Current diagnostic criteria for AD/HD include inattentive, hyperactive-impulsive and combined subtypes (APA, 2000). In order to meet criteria, clear evidence of impairment in two or more settings must be established. This impairment must be related to Inattentive or Hyperactive/Impulsive symptoms that meet clinical thresholds. Specifically, in order to meet criteria for predominantly inattentive type, one must endorse six or more inattentive symptoms, such as difficulty sustaining attention, being easily distracted by extraneous stimuli, and being forgetful in daily activities. In order to

meet criteria for predominantly hyperactive-impulsive type, one must endorse six or more hyperactive-impulsive symptoms, including talking excessively and interrupting or intruding on others. In order to meet criteria for combined type, one must display six (or more) of both inattentive and hyperactive-impulsive symptoms. Any diagnosis of AD/HD requires that symptoms have persisted for at least six months and to a degree that is both maladaptive and inconsistent with developmental level. Furthermore, these symptoms must have been present before age 7 in order to obtain a diagnosis.

While *DSM-IV* (APA, 2000) gives some indication of the need for clinical judgment in diagnosis of AD/HD in adults, the current criteria have been criticized for their developmental inappropriateness in this population (Barkley, 2006; Barkley et al., 2008). More specifically, field trials used to assess clinical thresholds for the current criteria included children and adolescents (4-16 years), and have not been assessed for their appropriateness in adults (Barkley, 2006). The most recent literature on the assessment of adult AD/HD suggests that the child symptom cutoffs may be developmentally inappropriate for adults. Specifically, recent analysis by Barkley, Murphy and Fischer (2007) suggests that adults who are experiencing 4 out of 9 symptoms are experiencing impairment and are statistically and developmentally deviant from their peers. In fact, their research suggests that a symptoms threshold of 4 effectively ruled out 100% of their community control sample. Therefore, it seems that 4 symptoms may represent a more inclusive cutoff for the evaluation of marital and other difficulties associated with impairment from AD/HD symptomology.

Most adults (as many as 70 to 75%) with AD/HD have at least one comorbid disorder (Barkley et al., 2008; Biederman et al., 1992; Biederman et al., 1993; Montano, 2004). Antisocial Personality Disorder is associated with adult AD/HD and is a possible outcome of childhood and adolescent CD, which has a prevalence of 24-25% and 17-25% in clinic referred samples, respectively (Barkley et al., 1996). Studies suggest that APD is present in 7-18% of adults with AD/HD (Biederman et al., 1993; Shekim et al., 1990). APD is a personality disorder that would make it difficult to form healthy and stable relationships of any kind (APA, 2002). Although less prominent, adults with AD/HD also exhibit significantly higher levels of substance abuse, anxiety and mood disorders (Barkley et al., 2008; Barkley, 2006; Biederman et al., 1993; Murphy & Barkley, 1996). Heightened levels of substance abuse may be related to both AD/HD symptoms and antisocial traits that are concurrent with AD/HD. Substance use, anxiety and mood disorders have all been linked consistently to marital distress in the general population, and are often linked to separation and divorce in the general population (Rodrigues, Hall & Fincham, 2006).

AD/HD is also impairing through its connection to verbal and physical aggression. In fact, even when comorbid disorders are controlled for, adult AD/HD seems to be related to physical aggression (Theriault & Holmberg, 2001). Theriault and Holmberg (2001) hypothesize that higher levels of impulsivity and lack of attention skills, may make someone more likely to settle relational disputes aggressively. Aggressive behavior is also linked to marital distress in the general population (Rodrigues, et al. 2006).

Functional Impairment

In addition to comorbid features, adults with AD/HD often have impairments in daily functioning that are associated independently with marital distress, separation and divorce. For example, adult AD/HD is associated with poorer academic attainment in adults, with 5% of clinical samples completing a university degree as compared to 41% of control participants (Weiss & Hechtman, 1993). These types of impairments also tend to lead to vocational problems (Barkley et al., 2008; Weiss, & Murray, 2003). In a study by Weiss and Hechtman (1993), employers rated ADHD adults who met criteria for predominantly hyperactive type as significantly worse in job performance than controls. Furthermore, this group reported higher levels of job loss. This is likely due to a myriad of symptoms including poor activation, effort, planning, organization, attention, vigilance, emotion regulation, and impulsive behavior. Furthermore, studies suggest that occupational stress is associated with greater marital conflict, lower marital support, and more marital dissatisfaction in the general population (Crouter, Bumpus, Head and McHale, 2001; Hughes & Galinsky, 1994; Larson, Wilson, & Beley, 1994; Perry-Jenkins, Repetti & Crouter, 2000). Therefore, occupational stress may also impede an AD/HD spouse's ability to support, and communicate with their spouse.

Although understudied, an important correlate of AD/HD symptoms is lack of social skills and hence, troubled interpersonal relationships. Studies of both children and adults suggest family and peer difficulties in AD/HD populations (Barkley et al., 2008; Biederman et al., 1993; Eakin et al. 2004; Rapport, Friedman, Tzelepis, & Van Voorhis, 2002; Wilens, 2004). Furthermore, assessment of college students with AD/HD suggests

that, similar to childhood findings, they have decreased functioning in areas such as social skills and self esteem (Shaw-Zirt, Popali-Lehane, Chaplin, & Bergman, 2005). These deficits are a function of the symptoms of AD/HD, which are likely to disrupt normal social functioning and process (APA, 2002). Findings also suggest that adults with AD/HD have general emotional and self concept deficits, given their history of failure, which are likely to impact social functioning (Leimkuhler, 1995). More specifically, comparison of AD/HD adults to matched controls revealed poorer social skills in domains such as heterosexual interactions and situations requiring assertiveness (Weiss & Hechtman, 1993). Basic interpersonal and communication skills are an important component of a healthy romantic relationship in the general population (Gottman & Notarius, 2002).

Marital Functioning

There is also a body of evidence suggesting that AD/HD symptomatology in adults has a serious impact on relationship functioning. Adults with AD/HD seem to have more unstable relationships, higher levels of marital problems, and higher rates of divorce than non-AD/HD controls (Barkley et al., 2008; Barkley, 2002; Biederman et al, 1993; Eakin et al., 2004; Minde et al., 2003; Murphy & Barkley, 1996). An interesting finding by Minde and colleagues (2003) suggests that the divorce rate may be moderated by gender, with more males divorcing wives with AD/HD than females divorcing husbands with AD/HD. This may be due to the unique way that gender roles within a household might interact with the impact of AD/HD on marital and household contributions. In addition to higher rates of divorce, adults with AD/HD tend to marry more frequently

(Biederman et al., 1993; Murphy & Barkley, 1996). Clinicians report that marital problems are one of the most frequent complaints of adults with AD/HD (Dixon, 1995; Weiss et al., 1999).

Studies suggest that spouses of adults with AD/HD report feeling resentful and overwhelmed due to unequal distribution of responsibilities in their family and lack of emotional support (Weiss et al., 1999). Spouses may also attempt to compensate for deficits associated with AD/HD. Problems associated with AD/HD such as ineffective child rearing and lack of work and financial management may lead a spouse to feel obligated to compensate for these behaviors (Eakin et al., 2004; Weiss, & Murray, 2003). Furthermore, these attempts are likely to be stressful for a spouse (Weiss et al., 1999).

Limitations in the Literature

Although these findings suggest increased marital dysfunction in AD/HD populations, there are several concerns that are not being addressed in the current literature. First, a large amount of empirical information about marital functioning comes from the child AD/HD literature, and it is important that this is extended to adults. Due to the genetic nature of AD/HD, children with AD/HD are likely to have a parent with AD/HD (Pauls, 1991; Biederman et al., 1992). Therefore, associations between child AD/HD and marital dysfunction may be confounded by AD/HD in one or both of the parents.

Second, there are several methodological weaknesses that must be addressed in research in this area. There are currently no standard adult diagnostic criteria, which has resulted in the use of a variety of modified criteria for adults. Therefore, results must be

interpreted cautiously as it is difficult to be sure if these studies are capturing adult AD/HD in a consistent manner.

Comorbidity is often not adequately addressed in the current literature. Comorbidity is likely to intensify impairment seen in adults with AD/HD and may change the diagnostic picture considerably. Adults with AD/HD have comorbidities ranging from internalizing (depression, anxiety) to externalizing (antisocial personality disorder) disorders (Barkley, 2006). In order to ensure a comprehensive and accurate understanding of AD/HD as a construct, the role of these comorbid disorders must be taken into account as well. Furthermore, this may help to clarify concerns that AD/HD may precede the relationship between comorbid conditions and marital distress.

Also, these studies generally have not taken into account the number of previous marriages or length of current marriage. These are variables that are likely to impact the level of satisfaction (e.g. a marriage of one year may not be experiencing as much dysfunction due to AD/HD symptoms). Similarly, it is also important to look at psychosocial stressors such as number of children, their diagnostic profile, and parenting stress in determining where marital stress and dysfunction arises. Finally, gender has not been addressed in these studies despite differences in gender roles within a household and the likelihood that this would interact with the impact of AD/HD on marital and household contributions.

Most importantly, current literature has overlooked the ways in which the symptoms associated with AD/HD impede specific marital processes. Although it seems that AD/HD marriages are deviant, assessment of AD/HD in the marriage must take into

account normative dyadic processes and roles they assume in the presence of AD/HD. Furthermore, this will allow for clinical interventions for adults with AD/HD to target processes which may be related to marital dysfunction as a component of treatment. Consequently, in order to understand how AD/HD impacts marriage, it is first necessary to evaluate normal marital processes.

Marital Process

It is clear based upon the current literature that AD/HD symptoms can result in heightened levels of stress within a couple (Barkley et al., 2008; Barkley, 2002; Biederman et al, 1993; Eakin et al., 2004; Minde et al., 2003; Murphy & Barkley, 1996). Stress in marriage significantly influences marital communication, satisfaction, and the development of intimacy in the general population (Bodenmann, 2000; Neff & Karney, 2004; Repetti, 1989; Story & Bradbury, 2004). There are numerous ways in which couples may respond to stress including individual coping, dyadic coping, or withdrawal. Of particular interest in this study is the way in which couples cope as a dyad. Dyadic coping as described by Revenson, Kayser, and Bodenmann (2005), is characterized by the interplay between the stress signals of one partner and the coping reactions of the other partner, or an act of joint or shared coping within the dyad. Dyadic coping may be part of or include every day processes such as communication, joint problem solving, emotional supportiveness, interpersonal conflict and dealing with life stressors as a couple (Revenson et al., 2005).

Dyadic Coping

Bodenmann (1995) developed a theory of dyadic coping that is transactional and describes specific forms of both positive and negative coping. This theory assumes the involvement of both spouses and assesses the response of a partner to the communication of a perceived stressor (Bodenmann, 1995; 2005). Within this model, dyadic coping has two objectives: reduction of stress for each partner and enhancement of relationship quality (Bodenmann, 1995; 2005). According to Bodenmann (1995; 2005) there are six forms of dyadic coping, three positive and three negative. Positive forms include supportive, common and delegated. *Supportive dyadic coping* involves efforts to support one's partner and also reduce one's own stress. This includes assisting the partner with their coping efforts. This may manifest in behaviors such as helping the partner with tasks, providing advice, showing empathy and/or belief in one's partner and helping a partner reframe a situation (Bodenmann, 1995; 2005). *Common dyadic coping* refers to symmetrical participation from both partners in order to handle a problem or emotion focused issue. This is exemplified by joint problem-solving, joint information seeking, or even relaxing together. This is differentiated from *Supportive dyadic coping* because both partners are experiencing the stressor and therefore, they jointly attempt to deal with the concern (Bodenmann, 1995; 2005). *Delegated dyadic coping* occurs when one partner takes over more responsibilities in order to reduce stress for the other partner. This may also refer to permanent re-division of tasks (Bodenmann, 1995; 2005). Negative forms of dyadic coping described by Bodenmann (1995) include hostile, ambivalent and superficial. *Hostile coping* is characterized by support that is accompanied by

disparagement, sarcasm, open disinterest, or minimizing the seriousness of the partner's concerns (Bodenmann, 1995; 2005). *Ambivalent coping* refers to coping in which the partner supports the other unwillingly or with the attitude that their aid should be unnecessary. Finally, *superficial dyadic coping* refers to insincere support. For example, asking a partner questions about their concerns but not listening to their response (Bodenmann, 1995; 2005).

Marital coping, and more specifically dyadic coping, is generally associated with higher marital quality, lower stress, and better psychological and physical well-being (Badr, 2004; Bodenmann, 2000; Bodenmann, Charvos, Widmer, & Bradbury, 2004; Bodenmann, Pihet, & Kayser, 2006; Coyne & Smith, 1991). In a recent meta-analysis across 13 studies of the role of dyadic coping in the marital functioning of Swiss couples, Bodenmann (2000) found an overall effect size of $d=1.3$ for dyadic coping on dyadic adjustment. In all 13 studies positive dyadic coping was significantly associated with higher relationship satisfaction and better overall functioning, with dyadic coping accounting for 30-40% of the variance in marital satisfaction. Furthermore, when clinical samples were compared to community samples, clinical samples received significantly higher scores for negative dyadic coping. This was also mirrored in couples reporting higher levels of distress (Bodenmann, 2000). Finally, it seems that dyadic coping has a long term association with marital functioning and separation/divorce. In a 5 year longitudinal study examining the effects of stress on relationship stability in Swiss couples, dyadic coping was a powerful predictor of separation and divorce at one, two, three, and five year follow up (Bodenmann & Cina, 2000).

Hypothesized Impact of AD/HD on Dyadic Coping

AD/HD is likely to make it difficult both for the affected spouse to contribute to marital processes, and for the unaffected spouse to respond in normative ways to marital difficulty. A hypothetical description of each partner's contribution will now be presented in the context of each form of dyadic coping.

Affected spouse. Symptoms of AD/HD are likely to interrupt the affected spouse's ability to utilize positive forms of dyadic coping. First, AD/HD spouses are less likely to offer supportive coping due to deficits in perspective taking and egocentric focus. Furthermore, when they do offer supportive coping, they may seem less genuine and coping will be less effective due to poor communication, attention, and problem solving. When presented with a stressor, an adult with AD/HD will be less likely to maintain focus, give thoughtful and positive feedback, and offer advice or ideas for dealing with the situation, despite genuine concern that they may feel about the situation. Adults with AD/HD may also tend to become upset and/or aggressive in stressful situations, effectively cutting off supportive coping (Theriault & Holmberg, 2001).

Initiation of joint or shared coping by a partner is also more likely to be less successful in an AD/HD relationship. Adults with AD/HD are likely to have deficits in communication and problem solving which will make joint coping very difficult (Barkley, 2006; Mick et al., 2004; Weiss & Hechtman, 1993). As previously discussed, inability to focus, give ideas and thoughtful feedback, and other communication deficits may make it especially difficult for an adult with AD/HD to contribute equally to joint problem solving efforts. Furthermore, studies suggest that adults with AD/HD are more

egocentric and less likely to perspective take and therefore, are unlikely to work well as a dyad at solving relational issues (Barkley, 2006).

The symptoms and associated features of AD/HD may also promote forms of negative coping in the affected spouse. Some key features of hostile coping include open disinterest, or minimizing the seriousness of the partner's concerns (Bodenmann, 1995). However, inattention in an adult with AD/HD may be perceived as disinterest or minimization. Furthermore, patterns of complaints in the couple's history and their inability to change may lead to resentment and hostility in the affected adult. Adults with AD/HD are likely to frequently hear complaints or concerns from their spouse about disorganization and lack of sustained attention which affect things like household needs, parenting, and vocational requirements. Over time, since the adult with AD/HD is unable to change their symptoms, and due to poor regulation, these complaints may lead to frustration and resentment. Finally, AD/HD adults are more likely to respond aggressively or impulsively in communication (Theriault & Holmberg, 2001). Therefore, hostility is more likely to appear in an AD/HD marriage.

Ambivalent coping occurs when the responsive partner assumes that aid should be unnecessary (Bodenmann, 1995). Again, due to lack of perspective taking and poor communication skills, an adult with AD/HD may be perceived as ambivalent (Barkley, 2006). For example, when concerns are presented about emotional needs within the marriage not being met, an adult with AD/HD will be less likely to identify with these feelings and may not understand the necessity of aid. Furthermore, development of negative reactions to patterns of complaints may lead them to react negatively on impulse

to any concern raised by their spouse. Lastly, lack of attention to the concern and/or lack of supportive feedback may reflect ambivalence to the spouse.

Superficial coping, as described by Bodenmann (2005), involves asking about a partner's problems but not listening to their response. However, poor communication skills are likely to make adults with AD/HD seem insincere. Inattention, egocentrism, and poor problem solving skills may be interpreted as insincerity, as the AD/HD spouse is less likely to attend to problems, and try to aid in their closure. These deficits also increase the likelihood of asking about a spouse's problems without attending to the response adequately.

As previously discussed, an AD/HD partner is likely to have a range of comorbid symptoms that are associated consistently with marital stress and dysfunction. Symptoms of anxiety, depression, substance use and abuse, etc. are likely to impair communication and coping skills, stressing the relationship further.

Unaffected spouse. Appraisals that are more likely to result in negative coping include those that place blame on the partner, those that assume one's inability to aid the partner, and differences in goal orientation (Bodenmann, 2005). Due to the chronic nature of AD/HD and the impact of symptoms on marital and household needs, unaffected spouses may be especially prone to appraise situations as hopeless and place liability on the partner for feelings of stress. For example, an unaffected spouse may attempt to aid their partner several times by describing how to do a household task that they have been assigned. However, if the task continues to go without completion the partner may begin to feel helpless, as their aid has not helped in the past, and are more likely to feel as

though their spouse is at fault for the tasks persistence. Spouses of adults with AD/HD may also feel that their partner has a different goal orientation, due to this likelihood that past attempts to change symptom presentation have failed.

Furthermore, both couple history and concurrent issues will impact the spouse's ability to utilize coping strategies. When unaffected spouses offer supportive forms of coping in response to distress, early on they may be reinforced for this behavior. For example, the first times that a spouse is late for dinner may be responded to with support and understanding. However, over time the unaffected spouse is likely to develop more negative appraisals of the scenario and will likely begin to blame the spouse and the chronic nature of the symptoms may lead to feelings of resentment or helplessness. This may limit the use of supportive forms of coping. These appraisals may then lead to frustration, resentment and feeling as though utilizing positive responses is not helpful.

Positive forms of coping that include re-assignment of household work in such a way that it will be more easily executed by an AD/HD spouse are likely to create inequality in the marriage which may lead to feelings of hostility or resentment (Bodenmann, 1995; 2005; Eakin et al., 2004). This is due to the fact that poor learning and symptoms such as inattention, lack of vigilance, impulsivity, procrastination, and poor planning are likely to leave adults with AD/HD with a smaller repertoire of behavioral tasks that they can effectively complete in the home. Therefore, efforts to take over difficult tasks for this spouse are likely to create imbalance in the relationship.

Symptom presentation is also likely to promote behaviors associated with negative forms of dyadic coping. Chronic deficits in communication and behavior are

likely to lead to feelings of hostility in a partner, as their communication and support needs are not met. Furthermore, compensatory behaviors utilized by unaffected spouses are likely to be accompanied by criticism and feelings of hostility toward the partner, due to frustration and feelings of inequity (Larson, Hammond, Harper, 1998; Weiss et al., 1999). An example of this pattern of compensatory behavior arises in vocational impairment seen in adults with AD/HD. Unaffected spouses report compensation for work and financial management difficulties in the affected spouse (Eakin et al., 2004). Over time as an unaffected spouse has to do the bills alone, or write reports for their spouse for work, they will likely build up frustration and feel under-benefited in the relationship. As this occurs, compensatory behaviors are likely to be accompanied by increasing levels of criticism or complaints, which then feed into negative patterns in the marriage.

Unaffected spouses may be more likely to utilize ambivalent coping as well. Patterns of chronic symptoms and ineffective coping as previously described may lead unaffected spouses to feel that their partner should be able to change their behavioral or communicative contribution. In a previous example, the first time a spouse was late for dinner, the unaffected partner was likely to assume they were absent minded or that it was due to extraneous circumstances. However, over time this behavior is likely to continue, and the unaffected spouse may reappraise the situation and begin to feel as though their partner is to blame. Consequently, they may begin to feel that aid should be unnecessary and respond with ambivalence to their spouses concerns.

Finally, superficial or insincere coping is more likely to occur in unaffected spouses due to the chronic nature of AD/HD and patterns of ineffective communication that are likely to be present. Again, over time feelings of resentment and appraisals of blame may develop in response to household and other deficits experienced by those with AD/HD. These feelings, along with the development of feelings of helplessness may facilitate the use of superficial coping.

Goals and Hypotheses

AD/HD is associated with many areas of impairment, including deficits in communication, problem solving, and self-regulation, and is further complicated by high rates of comorbidity (Barkley et al., 2008). These deficits, along with comorbid diagnoses, are associated with a number of impairments in life functioning. One of these impairments, marital dysfunction, is a significant concern that has received little attention in the literature.

Empirical evidence suggests that marital difficulties are significantly more likely in AD/HD populations (Barkley, 2002; Biederman et al., 1993; Eakin et al., 2004; Minde et al., 2003; Murphy & Barkley, 1996). However, current literature has not examined the processes or pathways through which AD/HD may impact marital functioning.

The purpose of this study, therefore, was to address the question: *How might AD/HD symptoms be related to marital functioning?* In particular, this study examined dyadic coping, which is good predictor of marital satisfaction in the normal population. The following hypotheses were tested:

1. In line with prior research, couples in which one member is affected by AD/HD would report poorer satisfaction as compared to control couples
2. In an extension of prior research, couples in which one member is affected by AD/HD would display higher levels of negative dyadic coping and lower levels of positive dyadic coping as compared to control couples.
3. Furthermore, dyadic coping would mediate the relationship between AD/HD and lower marital satisfaction.

On an exploratory basis, additional analyses were conducted to address numerous limitations in the current literature. These included evaluating groups for comparability on important domains such as length of marriage, number of previous marriages, number of children and number of diagnosed children, as well as common comorbid symptoms. Exploratory analyses were also performed to evaluate the ways in which co-occurring symptoms and gender of the affected partner are associated with marital outcome within the AD/HD group.

CHAPTER II

METHOD

Participants

In order to be eligible, couples had to be between 25 and 50 years of age and currently married or in common-law relationships (i.e. living together for at least 12 continuous months). To be included in the AD/HD group, at least one member of the couple had to meet modified DSM-IV criteria for AD/HD. Specifically, one member of the dyad: 1) endorsed at least 4 of 9 inattentive and/or 4 of 9 hyperactive-impulsive, both concurrently and in retrospective childhood report, as assessed through the ADHD Rating Scale and a semi-structured interview created to evaluate DSM-IV criteria in adults, 2) met criteria for statistical deviance of established AD/HD symptoms in reference to population norms (90th percentile or higher) on the appropriate DSM-IV derived subscale(s) (inattentive, hyperactive-impulsive or both) on the *Conners Adult ADHD Rating Scale* (CAARS), and 3) endorsed functional impairment that can be reasonably related to symptoms in at least two domains of daily functioning (e.g. educational, occupational, home life, relationships, etc.). Furthermore, evidence of AD/HD symptoms was corroborated by spousal report of 4 or more current hyperactive-impulsive and/or inattentive symptoms as assessed by the ADHD Rating Scale – Other Report.

Inclusion in the comparison group required that the participants display less than 4 current inattentive and less than 4 current hyperactive-impulsive symptoms as assessed

through the ADHD Rating Scale. Control participants were not excluded on the basis of childhood symptom presentation. In addition, control participants scored at or below the 84th percentile on the Conners Adult ADHD Rating Scale in order to establish their symptom level was significantly lower than those in the AD/HD group relative to conventional norms.

Couples were recruited from the surrounding area through advertising and through the AD/HD clinic at UNCG or the Developmental and Psychological Center in Greensboro (e.g. clinic-referred adults and parents of children with AD/HD). Roughly 100 couples were contacted with information about the project across the two clinics. A total of 19 couples participated. Eight of these couples met criteria for the AD/HD group and 11 couples comprised a control condition.

For an overview of demographic information, refer to Table 1. Across groups, participants were 35 years old ($sd=8.5$ years) and had an annual income of roughly 60,000 dollars a year ($sd \approx 30,000$). The sample ($n=38$) self-identified as 84% Caucasian, 11% African-American and 5% Hispanic/Latino. The average length of their marriage was 9.5 years; however, there was a significant range (1 month to 25 years). Only 10.5% of the sample had been previously married. Sixty-eight percent of couples in the sample had children. Of those, 31% had one child, 46% had two children, and 23% had three children. No participating couples had more than three children. Of those couples with children, 61% reported that one or more of their children had a diagnosis of AD/HD. Thirty percent of the sample reported that they were on psychoactive medications. Finally, roughly 50% of couples indicated that they had been in couple's therapy. Of

those, the range of length of therapy was dramatic, ranging from 1 month to 6 years.

Average length of therapy for all couples was roughly 4 months.

For the AD/HD group in particular, there were 7 couples in which one partner met criteria for AD/HD and there was one couple in which both partners met criteria for AD/HD. Of those who met criteria, 2 were Inattentive type and 5 were Combined type.

In order to gather information about symptom management, AD/HD group participants were asked about previous therapy and medication use. A summary of the treatment data may be found in Table 2. Four participants had received therapy for AD/HD symptoms, and they reported that they attended anywhere from 1 to 6 years of therapy. In terms of psychotropic medication, 42.8% of participants in the AD/HD group reported that they did use medication. Of affected partner's specifically (N=9), 5 participants reported use of psychotropics. These included Adderall, Vyvanse and Strattera, as well as antidepressants and mood stabilizers. Of unaffected spouses in the AD/HD group (N=7), one participant reported medication management with Wellbutrin.

Independent Measures

AD/HD Symptoms Semi-Structured Interview

A semi-structured interview addressing DSM criteria was used to assess AD/HD symptoms. This interview was used to assess the 9 inattentive and 9 hyperactive-impulsive symptoms, as well as their onset, course, and impact on domains of functional impairment. All interviews were administered by the investigator, a graduate student in clinical psychology with training in the assessment of AD/HD.

ADHD Rating Scale IV

The ADHD Rating Scale (DuPaul, Power, Anastopoulos & Reid, 1998) is a self and other-report measure of symptom presentation and severity in children. A modified version for use with adults was used as a screener for AD/HD symptoms. The scale consists of 18 items (listed in Appendix A) that assess the DSM-IV criteria for the disorder and ask the participant (or other rater) to rate the frequency of each behavior in the participant based on a four-point Likert scale (0=Never or rarely, 1=Sometimes, 2=Often, 4=Very often) for two periods during their life including childhood and the past six months. These ratings can be used to arrive at two different outcomes; symptom counts for inattentive and hyperactive/impulsive symptoms and overall severity scores. Symptom counts were used in this study as a gating criterion for inclusion in the AD/HD group and exclusion from the control group.

The Conners Adult AD/HD Rating Scale (CAARS)

CAARS (Conners, Erhardt & Sparrow, 1999) is a self-report rating scale that allows for the assessment of problematic AD/HD symptoms continuing into adulthood. It is a 66-item measure containing several subscales. Items are rated on a 0-3 (Not at all/Never to Very much/Very frequently) Likert scale. Scores ranging from 0 to 54 are then converted to t scores. The reliability and validity of the CAARS is satisfactory. Internal reliability of the factor scales ranges from .86 to .92 and test retest reliability ranges from .88 to .91 (Conners, Erhardt, Epstein, Parker, & Sitarenios, 1999). Four consistent factors emerge from both scales: Inattention/Cognitive Problems, Hyperactivity/Restlessness, Impulsivity/Emotional Lability, and Problems with Self-

Concept (Conners, Erhardt, Epstein, Parker, & Sitarenios, 1999). The subscales using DSM-IV items for inattentive and hyperactive-impulsive symptoms were used in this study to confirm diagnoses in the AD/HD group, employing cutoff scores at the 90th percentile in defining the group with AD/HD.

Dependent Measures

Dyadic Adjustment Scale (DAS)

Marital satisfaction was measured using the Dyadic Adjustment Scale (DAS). The DAS (Spanier, 1976) is a 32-item self-report measure assessing overall satisfaction, including levels of agreement on a range of issues relevant to the couple, cohesion (e.g. sharing of ideas and activities), affection, and discord in a marriage. All but 4 questions are scored on a 5 point Likert scale in which higher scores indicate higher satisfaction, agreement, affection and cohesion. High overall scores indicate higher satisfaction and low overall scores indicate higher levels of discord, with possible scores ranging from 0 to 151. Cronbach's alpha for the scale is .96 (Spanier, 1976; Sharpley & Cross, 1982). Evidence suggests content, criterion and construct validity (Spanier, 1976). Furthermore, this measure correlates highly with other measures of satisfaction, such as the Lock-Wallace Marital Adjustment Scale ($r = .86$ to $.88$) (Locke & Wallace, 1959; Spanier, 1976). The full-scale DAS was used in this study to evaluate satisfaction and adjustment as an outcome in all participants.

Dyadic Coping Inventory (DCI)

The Dyadic Coping Inventory is a self-report measure of stress communication and positive and negative forms of dyadic coping. The measure is made up of 37 items,

each of which is evaluated on a 5 point Likert scale (Very rarely to Very often). The scale can be scored to give an overall measure of dyadic coping (0 to 185), or measures of the use of specific forms of coping. Items on the DCI are listed in Appendix B. Alpha's for subscales range from .72 to .93 (Bodenmann, 2007). Full scale alphas are .93 for women and .92 for men. Test retest reliability for the measure is adequate, ranging from .64 for men to .80 for women. Factor analysis supports the presence of factors representing stress communication, positive (e.g. Supportive, Delegated), and negative forms of dyadic coping (Bodenmann, 2007). The DCI has also been shown to have convergent and discriminant validity (Bodenmann, 2007). It is significantly associated with marital satisfaction as measured by the DAS ($r = .66$ to $.75$), communication ($r = .78$ to $.79$) and is moderately associated ($r = .41$) with measures of individual coping (Bodenmann, 2007). The full scale DCI was employed in this study to evaluate coping as an outcome and mediator in all participants. Positive and negative factors were scored for all participants as well, in order to evaluate hypotheses about different coping styles.

Additional Measures

Beck Depression Inventory (BDI)

The BDI (Beck, Epstein, Brown, & Steer, 1988) is a measure assessing depressive symptoms through self-report of cognitive, somatic, behavioral and affective symptoms. The scale is made up of 21 items that are rated 0 to 3 scale (0 being the least and 3 being the most severe), and added together to generate scores ranging from 0 to 63. Cut-off scores can be used to evaluate depressive symptoms, with 10 or less being minimal, 10-18 being moderate, 19-29 being moderate to severe, and 30-63 being severe depression

(Beck, Steer, & Garbin, 1988). Meta-analyses of data collected from the BDI suggest adequate internal consistency, ranging from an alpha of 0.86 for psychiatric patients and of 0.81 for non-psychiatric subjects (Beck et al., 1988). These analyses also conclude that test-retest reliability is greater than .60. Furthermore, the BDI has adequate validity (Beck et al., 1988). The BDI is highly related to both clinical assessments of depression and other widely used instruments for the assessment of depression ($r > .60$) (Beck et al., 1988). Furthermore, there is evidence that the BDI differentiates clinically depressed from non-depressed groups (Beck et al., 1988). The BDI was used in this study to evaluate possible comorbid depression in all participants.

Beck Anxiety Inventory (BAI)

The BAI is a self-report questionnaire which assesses levels of anxious symptoms (Beck et al., 1988; Beck & Steer, 1990). The instrument has 21 items; 14 items assessing somatic symptoms, and 7 items that assess cognitive and subjective features of anxiety (Clark, Steer, & Beck, 1994). These items are rated from 0 to 3, with 0 being the least and 3 being the most severe, giving an overall score ranging from 0 to 63. The BAI has high internal consistency ($\alpha \geq .92$) and 1-week test-retest reliabilities of .67 (Beck et al., 1988). Furthermore, the BAI has adequate concurrent validity, correlating .5 and higher with commonly used measures of anxiety (Beck et al., 1988; Clark et al., 1994). The BAI was used in this study to evaluate possible comorbid anxiety in all participants.

Disruptive Behavior Checklist - Oppositional Subscale (ODD Rating Scale)

While measurements in adulthood of ODD have been used in the adult AD/HD literature, there is no standard form of assessment of these symptoms. In order to resolve

this concern, current literature has turned to self report ratings of symptom presentation (Murphy et al., 2002). Therefore, the ODD Rating Scale has been revised to assess the symptoms of ODD in adults through self report. The ODD Rating Scale is made up of 8 items that are rated on a 4 point likert scale (0 being least severe and 3 being most severe), creating an overall range of 0 to 24. Although there are no adult norms for the ODD Rating Scale, the scale shows adequate internal consistency ($\alpha = .86$), and 30 day test-retest reliability of .83 in child populations (Erford, 1998). Furthermore, the ODD Rating Scale is correlated $r = .87$ and $.70$ with measurements of conduct problems and hyperactivity respectively (Erford, 1998). The full ODD Rating Scale was used to evaluate antisocial behavior in all participants.

Hare's Psychopathy Checklist – Revised (PCL-R)

The PCL–R was used to evaluate psychopathic characteristics through self-report. The scale is made up of 20 items. The items are scored on the basis of a semi-structured social history interview, which yields a total score representing the extent to which the individual matches the description of psychopathy (0 - 40). Scores of 30 or higher are typically used to designate those who are psychopathic (Hare, 2003). Internal consistency is adequate (α ranging from .87 to .97) (Hare, Harpur, Hakstian, Forth, Hart, & Newman, 1990). The test-retest reliability of the PCL instrument has shown to be high, ranging from .85 to .90 over a series of studies (Schroeder, Schroeder, & Hare, 1983). Furthermore, the PCL–R scores predict a variety of antisocial behaviors, including aggressive behavior and criminal violence (Cooke, & Michie, 1997). The PCL–R has two factors, which can be scored separately to represent the interpersonal or affective features

of psychopathy, and the behavioral features of psychopathy (Hare, 2003). The full scale was used along with the ODD Rating Scale in this study to evaluate antisocial behavior in all participants.

Parenting Alliance Inventory (PAI)

The PAI assesses the degree to which a parent feels that they have a sound working parenting relationship with their child's other parent (Abidin, 1988; Abidin & Brunner, 1995). The PAI is a 20 item self-report questionnaire assessing how each parent interacts with the other parent in regard to their child. These questions are answered on a 5 point Likert scale ranging from strongly agree (5) to strongly disagree (1), creating a possible range of 0 to 100. The PAI has good internal consistency ($\alpha = .97$), and good concurrent and predictive validity (Abidin & Brunner, 1995). In the aforementioned study, the PAI predicted expected differences between couples who were married, separated and divorced. The PAI was used in this study to assess the prospect of child-related marital dysfunction as opposed to adult-related marital dysfunction in all participants.

Global Appraisal of Individual Needs (GAIN)

The GAIN is a comprehensive, structured interview that has eight main sections (background, substance use, physical health, risk behaviors, mental health, environment, legal, and vocational). In this study, only the substance use component of the GAIN was utilized ($\alpha > .70$). These data can be used to produce a substance problems factor (Dennis, Scott, Lennox, Funk, & McDermeit, under review). Diagnoses based on the GAIN have been shown to have good test-retest reliability for substance use disorders

(kappa=0.6) and to accurately predict independent and blind staff psychiatric assessment of the lack of a non-substance use diagnoses (kappa=0.91; Jasiukaitis, & Shane, 2001). All GAIN interviews were administered by the investigator, a graduate student in clinical psychology.

Demographics

A questionnaire developed specifically for this study was used to assess use of psychotropic medication (in the affected partner), number of previous marriages/common-law relationships, length of current relationship or marriage, and number of children, as well as basic demographic information. Basic demographics were collected from all subjects through self-report.

Procedure

Participants were recruited through advertising in the community and from clients and parents of clients assessed at either the AD/HD Clinic at the University of North Carolina at Greensboro or the Developmental and Psychological Center in Greensboro.

The recruitment process began when the referral source contacted the AD/HD Clinic at UNCG. Recruited couples were then scheduled to come to the AD/HD Clinic at the University of North Carolina at Greensboro for data collection. Participants were consented when they arrived at the AD/HD Clinic at UNCG by the graduate student investigator. They were then placed in separate rooms and each given a packet of questionnaires to fill out. The order of the questionnaires was standard, with the demographic questionnaire first, followed by marital assessments (DAS and DCI), AD/HD assessments (ADHDRS, CAARS), and additional areas of interest (BDI, BAI,

ODD, LSRP, PSI, PAI). When each partner finished with their packet, the researcher completed the semi-structured interview and GAIN. Following collection the couple was reunited in order to allow time for questions and compensation. Data collection took roughly 1-2 hours. Each individual was compensated 15 dollars for their participation.

CHAPTER III

RESULTS

Preliminary Analyses

Preliminary analyses were conducted to examine whether scores deviated from a normal distribution, defined as skewness values exceeding 1.5 (Lomax, 2001). All values were normally distributed with the exception of Beck Anxiety Inventory (BAI) scores within the AD/HD group. Following square root transformation, the BAI variable fit a normal distribution.

Comparability of AD/HD and Control Group

Demographic comparability of the AD/HD and control groups was examined by conducting a series of t-test analyses. A description of group means can be found in Table 1 and 2. Although the two groups were not significantly different on any demographic variables, there were noteworthy trends. First, husbands in the AD/HD group had a higher rate of psychoactive medication use ($t=1.97, p=.065$). Also, the control group received more couples therapy on average as compared to the AD/HD group ($t= 1.85, p=.085$; 6 months as compared to 2.75 months, respectively). However, this was impacted quite dramatically by a large outlier in the control group, and median length of couples therapy, a measure less impacted by the outlier, did not suggest that there was any difference between the groups (Control = 0, AD/HD = 1)

Given the increased risk for distressed couples to experience comorbid symptoms and parenting stress, and the absence of many of these variables in the current literature, additional between-group analyses were conducted. Co-occurring symptoms were assessed dimensionally, and included symptoms of depression, anxiety, and oppositional behavior, as well as parenting stress and parenting alliance. As shown in table 3, these analyses indicated that AD/HD couples were not significantly different than control couples on the majority of these variables. However, notable differences arose surrounding husband's reported depression across groups ($t=2.28, p=.036$), and there was a trend toward differences in wives' reported anxiety across groups ($t=1.92, p=.073$). These symptoms are evaluated in more detail within exploratory analyses.

Marital Functioning Composites

An overview of correlations may be found in Table 4. Correlations among dyadic adjustment and coping scores were first examined in order to determine the degree of agreement within couples. Dyadic adjustment scores from each partner were highly correlated with one another across the sample ($r=.77, p<.000$). Furthermore, total coping scores for each partner correlated highly across the sample ($r=.63, p=.006$). These findings suggest that reports from each partner were highly consistent. Thus, this provided sufficient support for creating a couple composite by averaging the two partners' reports of each outcome variable in order to simplify further analyses. For the

remainder of analyses, references to couple coping and satisfaction reflect averages of the two partners' reports.¹

Marital Functioning Across Groups

A summary of marital functioning across groups may be found in Table 5. Consistent with the first hypothesis, AD/HD couples reported lower satisfaction on average as compared to controls ($t=3.51, p=.003$). This yielded a large absolute effect size (Cohen's $d= 1.41$). AD/HD couples also reported significantly poorer coping overall as compared to control couples ($t=2.14, p=.047$). This also yielded a large absolute effect size for Cohen's d of .96.

Mediation Analysis

In order to address the third hypothesis, a mediation analysis was completed (Table 6). According to Baron and Kenny (1986), a variable functions as a mediator when it meets the following conditions: (a) variations in levels of the independent variable significantly account for variations in the presumed mediator (i.e., AD/HD predicts dyadic coping), (b) variations in the mediator significantly account for variations in the dependent variable (i.e., Dyadic coping predicts dyadic adjustment), and (c) when previous paths are controlled, a previously significant relation between the independent and dependent variables is no longer significant (i.e., AD/HD no longer predicts dyadic adjustment).

¹ While this study expressed interest in looking at negative and positive components of coping in addition to overall coping, negative coping scores across partners did not hang together well, and therefore, did not allow for a composite to be formed ($r=.208, p=.4$). Therefore, specific components of the dyadic coping process are evaluated within the AD/HD group specifically, rather than between groups.

First, satisfaction was regressed on AD/HD status, indicating that AD/HD significantly predicts satisfaction across the sample ($\beta=-17.62, p=.004$). To establish path B, satisfaction was regressed on dyadic coping and results indicated that dyadic coping also significantly predicted satisfaction across groups ($\beta=.659, p<.001$). Finally, dyadic coping was entered into the first step of a regression, and AD/HD status into the second step, in order to test the mediation. When variance explained by dyadic coping was removed in step 1, the relationship between AD/HD and satisfaction in step 2 remained significant ($\beta=-10.18, p=.028$). Thus, while it seems that there is an association between AD/HD and poorer dyadic coping and between dyadic coping and satisfaction, variance in dyadic coping does not seem to explain the relationship between AD/HD and satisfaction as predicted.

Exploratory Analyses

Within-group analyses were used to better describe the AD/HD sample in an initial attempt to address previous limitations in the literature (Tables 7 and 8). First, ANOVA were used to further examine differences in reported anxiety and depression. Specifically, unaffected versus affected partner's report for each variable was compared. These analyses indicated that while wives' anxiety scores were not impacted by their affected status, husbands' depression scores were somewhat higher when he was the affected partner ($t=1.76, p=.139$). Although this only reflects a trend, small sample size likely limited our ability to find significant results. Furthermore, this trend is consistent with the current literature in highlighting the co-occurrence between AD/HD and mood disorders. It is important to note that these symptoms also impacted satisfaction within

the AD/HD group, having a strong negative correlation with both husband reported dyadic adjustment and the couple composite ($r=-.73, p=.064$; $r=-.64, p=.120$).

Several ANOVA were also used to evaluate the impact of the affected partner's sex on dyadic adjustment and couple coping. However, given the sample size, these analyses should be interpreted with care. These analyses indicated that there was a trend toward poorer satisfaction when the husband was the qualifying partner, rather than the wife ($t=1.95, p=.108$). This may be related to the fact that when the husband was the affected partner, he reported using less positive coping skills relative to when the wife was the affected partner ($M=59.7$ vs. $M=71.67$). However, these are both likely confounded by increased report of depression in husbands in the AD/HD group. There were not any notable differences in women's positive coping. While not significant, the unaffected partner had a tendency to report more negative coping by the couple, while the affected partner reported less ($M=19.3$ and 21 for the unaffected partner as compared to $M=17.5$ and 18.6 for the affected partner).

Clinical Significance of Findings

Group means were also evaluated for clinical significance using cut-points developed by the authors of the dyadic adjustment scale (DAS) and dyadic coping inventory (DCI). In regard to satisfaction, a cut-off point of 97 has been established in the literature as a means for dichotomizing distressed and non-distressed couples most effectively using the DAS (Jacobson, et al. 1983/2000; Spanier, 1986). When these cut points were used to dichotomize our sample, 57% of the AD/HD group was distressed as compared to 9% of the control ($\chi^2(1, 18) = 4.92, p=.02$). In regard to couple coping, the

percent of AD/HD couples who fell into the below average, average and above average range as defined by Bodenmann (2000) was 28.6%, 71.4% and 0%, respectively. In the control group, however, 9.1% fell in the below average group, 54.5% fell in the average range, and 36.4% scored in the above average range for coping skills ($\chi^2(2, 18) = 3.72, p = .15$). These results indicate that group means were clinically significantly different, particularly with regard to couple satisfaction, indicating that differences between the groups likely reflect meaningful differences in marital functioning.

CHAPTER IV

DISCUSSION

Having a child with AD/HD has been associated with increased marital conflict, separation and divorce, as well as a more negative emotional climate (Barkley et al., 2008; Barkley et al., 1990; Befera & Barkley, 1984; Brown, 2005; Lahey et al., 1988; Taylor et al., 1991). This has typically been attributed to elevated parenting stress, and disturbances in family interactions that are primarily in response to the child's maladaptive behavior (Barkley, 2006). However, research has overlooked the way in which adult AD/HD symptoms may also contribute to family dysfunction.

Adult AD/HD is associated with many areas of impairment, including deficits in communication, problem solving, and self-regulation, and is further complicated by high rates of comorbidity (Barkley et al., 2008). These deficits, along with comorbid diagnoses, are associated with a number of impairments in life functioning. One of these impairments, marital dysfunction, is a significant concern that has received little attention in the literature.

Empirical evidence suggests that marital difficulties are significantly more likely in AD/HD populations (Barkley, 2002; Biederman et al., 1993; Eakin et al., 2004; Minde et al., 2003; Murphy & Barkley, 1996). However, current literature has not examined the processes or pathways through which AD/HD may impact marital functioning. Furthermore, current literature has overlooked psychosocial stressors that may contribute

to our understanding of empirical findings. The purpose of this study was to answer the question: *How might AD/HD symptoms be related to marital functioning?* In particular, we hoped to clarify ways in which AD/HD symptoms may be associated with couple functioning and satisfaction. Consistent with prior research, it was hypothesized that AD/HD couples would report poorer satisfied than control couples. In an extension of prior research, it was also hypothesized that AD/HD would be associated with poorer coping (less positive coping and more negative coping). Finally, it was hypothesized that poorer coping may explain the relationship between AD/HD and decreased satisfaction.

Couple Satisfaction

Results supported the first hypothesis, indicating that AD/HD couples report poorer overall satisfaction as compared to control couples. This is consistent with a growing literature suggesting that adults with AD/HD have poorer functioning relationships and thus, that couples in which there is an affected partner tend to report lower satisfaction when compared to other couples.

It is important to note that group means were also significantly different in a clinical sense, as they fell above and below cut-points developed to differentiate between distressed and non-distressed couples. Specifically, 57% of the AD/HD group was considered distressed as compared to 9% of the control. This is consistent with results of Eakin and colleagues (2004) assessment of AD/HD and marriage, indicating that a greater proportion of couples in which one partner had AD/HD fell within the maladjusted range on measures of marital adjustment as compared to control couples.

Therefore, it seems that there is both a statistical and clinically meaningful difference in the satisfaction levels of AD/HD and control couples in our study.

Dyadic Coping

Consistent with the second hypothesis, AD/HD and control couples were significantly different in their reported levels of dyadic coping. Without observational data, it is impossible to determine the specific ways in which AD/HD symptoms might interfere in dyadic coping processes. However, this adds important new information to the field, by identifying a unique predictor of marital functioning with which AD/HD symptoms are related.

Again, it is important to note the clinical significance of these findings. Analyses using cut-points developed by Bodenmann (2000) indicate that the AD/HD group was less likely to be categorized as above average in their coping ability as compared to controls and much more likely to be categorized as below average in their coping ability as compared to controls. However, it is not clear that these differences were statistically significant, and therefore, they must be interpreted with caution.

Mediation Pathways

A mediation analysis evaluated the role of dyadic coping in explaining the relationship between the presence of AD/HD in a couple and reduced satisfaction. Analyses did not support a mediation model. Therefore, while the relationship between dyadic coping and satisfaction suggests that dyadic coping processes are likely important in marital functioning, this suggests that AD/HD symptoms are uniquely related to satisfaction.

In review, findings indicate that AD/HD symptoms are associated with poorer marital functioning, and specifically, poorer reported coping and satisfaction within the partnership. As previously noted, these are domains in which this study adds to the current literature by providing a first step in attempting to understand the ways in which AD/HD symptoms might be associated with reduced marital functioning.

Understanding AD/HD Couples

The current study also conducted within-group exploratory analyses in order to clarify and add to our current understanding of couples in which one partner has AD/HD. AD/HD couples reported that they were less satisfied overall when the husband was the affected partner. This is likely related to the fact that husbands reported increased negative coping in the AD/HD group as compared to their wives. This is not consistent with theories that some researchers have posed suggesting that when a wife has AD/HD it is much more debilitating because she traditionally has more responsibilities in the context of the marriage (Minde, et al. 2003). However, this was likely confounded by the significant symptoms of depression that were reported by affected husbands. Symptoms of depression were also related to satisfaction within the AD/HD group for both the husband, and the couple as a whole. Therefore, differences in satisfaction for couples in which the husband is affected are likely related to poorer functioning and coping overall. Other significant differences in positive and negative coping within the AD/HD sample were not found.

Limitations

The most significant limitation of this study is its small sample size. This likely limited power and restricted the ability to detect significant differences and relations. However, it is important to note that, despite restrictions imposed by small sample size, significant relationships were consistently detected between AD/HD, poorer coping and poorer marital satisfaction. Small sample size also limits the generalizability of the findings. In particular, lack of a representative sample may reduce external validity. However, it is promising that both means for satisfaction, and percent of couple's that fell in the distressed range, were in line with previous findings (Eakin, et al. 2004).

A second limitation, related to small sample size, involves use of couple composites to evaluate satisfaction and coping in couples. While this is a statistically acceptable approach, there are much more sophisticated analyses that would allow us to maintain separate reports from each partner and reduce the potential loss of important information. However, our sample size did not provide the power necessary to use hierarchical linear modeling (HLM) or similar statistical procedures. Furthermore, a larger sample would afford the opportunity to include and assess the way in which comorbid symptoms impact the relationship between AD/HD and marital functioning. Although significant differences were found in BDI across groups, the current study could not evaluate these differences further due to low power. In spite of these limitations, this study provided a unique and important first step in understanding the relationship between AD/HD and marital satisfaction and coping.

Our findings are also limited by the self-report nature of the data, although, this is a common weakness in the field. However, this study attempted to address this concern by gathering other-report data from each participant's spouse and using it to confirm diagnostic status. In the future, observational data may be particularly useful in understanding dyadic processes in the context of AD/HD.

Similarly, while the method of diagnosis in this study was fairly rigorous, it was limited by the current lack of adult AD/HD assessment tools in the field. As the field progresses, it is critical that assessments specifically designed to target adult AD/HD symptoms, and normed on the adult population, are established.

Finally, it remains unclear if the relationship between AD/HD and poorer marital coping and satisfaction reflects a unique relationship with AD/HD symptomatology as opposed to the relationship between general psychopathology and reduced marital functioning. There are several ways in which AD/HD may be uniquely related to poorer satisfaction, including the chronicity of the symptoms, and the fact that symptoms often reduce the ability of the affected spouse to take on household or family responsibilities. However, future literature should determine the extent to which marital impairment is uniquely related to symptoms of AD/HD as compared to other forms of psychopathology.

Summary and Future Directions

In summary, results suggest that couples in which one partner has AD/HD report poorer coping and poorer satisfaction as compared to control couples. Furthermore, these differences seem to be clinically meaningful when evaluated using cut points developed by the authors of each measure (Spanier, 1986; Bodenmann, 2000). Finally, the

relationship between AD/HD and satisfaction was not mediated by dyadic coping. Therefore, results indicate that while dyadic coping processes are associated with satisfaction, AD/HD symptoms are associated with satisfaction uniquely or through additional mediators.

Within the AD/HD group there were also several important trends. Specifically, husbands reported poorer coping and higher rates of depression, particularly when they were the affected partner. Furthermore, their symptoms of depression were associated with poorer satisfaction for both the husband, and the couple as a whole. Therefore, this highlights the importance of including comorbid conditions in research as we expand the literature on AD/HD and marital functioning.

Although there are several limitations of the current study, including the small sample size and self-report nature of the data, the findings represent a unique and important contribution to our current understanding of the way in which AD/HD symptoms impact processes within a relationship. They also provide us with future directions in both clinical and research domains. Specifically, given that AD/HD couples report significant impairment in their marital relationships, treatment for adults with AD/HD may include behavior modification and communication training in the context of the relationship, as well as other therapeutic interventions aimed at improving couple functioning and satisfaction. Furthermore, findings highlight the importance of attending to comorbid disorders in an academic and clinical setting, as this research corroborates the high level of comorbidity found in AD/HD samples.

Future research in this area should continue to elucidate the pathways through which AD/HD impacts marital processes. Furthermore, it should do so using larger samples and statistical analyses that can accommodate nested data, as well as evaluate comorbidity and the impact it has on marital functioning. It may also be very useful for future research to include observation of couples. Observation has long been the preferred method for collecting data in marital research (Bradbury, Fincham & Beach, 2000). Although it is both difficult and time consuming, observational data may provide a way to observe the way in which AD/HD symptoms interfere with couple processes directly. Finally, data highlight the importance of including assessment of comorbid symptoms in future research. These data do seem to impact results, and therefore, it is important that we understand the way in which they interact with and exacerbate the expression of AD/HD symptoms within a marriage.

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Appendix. Tables and Figures

Table 1

Demographic Means, Standard Deviations (in Parentheses), and Percentages by Group

| Group | Age | Ethnicity | Income | Months Married | % Remarried | # Previous Marriages | # of Children | % with Diagnosed Children |
|----------------------------|----------------|--------------------------------|----------------------|--------------------|-------------|-------------------------|----------------|---------------------------|
| Total Sample | 35 (8.50) | 83.5% C 11% AA 5.5% H/L | ≈60,000 (≈30,000) | 9.5 (87.15) | 11% | 50% 1 25% 2 25% 3 | 1.28 (1.11) | 58.3% |
| AD/HD¹ | 37.5 (6.43) | 71% C 14.5% AA 14.5% H/L | ≈60,000 (≈30,000) | 126.29 (59.80) | 14.3% | 50% 2 50% 3 | 1.57 (.98) | 66.6% |
| Control² | 34.4 (9.80) | 91% C 10% AA 0% H/L | ≈60,000 (≈30,000) | 116.82 (104.56) | 9.1% | 100% 1 | 1.09 (1.22) | 50% |

Note. C= Caucasian, AA= African American, H/L= Hispanic/Latino

¹AD/HD: N = 7

²Control: N = 11

Table 2

Means, Standard Deviations (in Parentheses), and Percentages by Group of Psychological Treatment

| Group | % Attended Couples Therapy | Months in Couples Therapy | % Psychotropics | Type of Psychotropics |
|----------------------------|----------------------------|---------------------------|-----------------|--|
| Total Sample | 48.6% | 4.67 (14.00) | 27.7% | |
| AD/HD¹ | 64% | 2.28 (2.63) | 42.8% | <u>Affected (N=5):</u> Adderall, Strattera, Vyvanse <u>Unaffected (N=1):</u> Wellbutrin |
| Control² | 38% | 6.18 (17.97) | 18.2% | Wellbutrin, Zoloft, Lamectal |

¹AD/HD: N = 7

²Control: N = 11

Table 3

Descriptive Statistics

| | M | Median | SD | Minimum | Maximum | Skewness | Kurtosis |
|---|----------|---------------|-----------|----------------|----------------|-----------------|-----------------|
| <i>AD/HD Couples¹</i> | | | | | | | |
| <u>Husband</u> | | | | | | | |
| BDI | 10.14 | 5.00 | 8.78 | 4 | 26 | 1.356 | .375 |
| BAI | 11.00 | 3.00 | 15.72 | 1 | 43 | 1.844 | 2.905 |
| PSI⁵ | 135.33 | 135.50 | 28.59 | 96 | 166 | -.199 | -1.75 |
| PAI⁶ | 72.67 | 72.00 | 8.29 | 62 | 87 | .88 | 1.97 |
| ODD | 6.43 | 6 | 3.31 | 3 | 11 | .322 | -1.834 |
| <u>Wife</u> | | | | | | | |
| BDI | 8.00 | 8.00 | 4.28 | 1 | 13 | -.624 | -.466 |
| BAI | 8.57 | 9.00 | 6.05 | 1 | 19 | .680 | .202 |
| PSI⁵ | 133.16 | 133 | 24.31 | 96 | 165 | -.307 | -.054 |
| PAI⁶ | 71.83 | 72.5 | 14.82 | 49 | 94 | -.094 | 1.221 |
| ODD | 5.57 | 4 | 3.10 | 1 | 9 | -.096 | -1.536 |
| <i>Control Couples²</i> | | | | | | | |
| <u>Husband</u> | | | | | | | |
| BDI | 4.00 | 4.00 | 1.73 | 0 | 6 | -.988 | 2.067 |
| BAI | 5.64 | 5.00 | 4.76 | 0 | 13 | .222 | -1.287 |
| PSI⁵ | 146.33 | 146 | 15.68 | 123 | 172 | .322 | 2.213 |
| PAI⁶ | 80.33 | 91.00 | 20.75 | 41.00 | 94.00 | -1.8 | 3.1 |
| ODD | 4 | 4 | 2.68 | 0 | 8 | .114 | -1.323 |
| <u>Wife</u> | | | | | | | |
| BDI | 5.36 | 5.00 | 4.50 | 0 | 13 | 0.561 | -.934 |
| BAI | 4.45 | 5.00 | 3.08 | 0 | 10 | .054 | -.653 |
| PSI⁵ | 147.83 | 144.50 | 13.19 | 132 | 169 | .742 | .095 |
| PAI⁶ | 84.67 | 83.50 | 10.96 | 71 | 99 | .172 | -1.67 |
| ODD | 4.09 | 3 | 2.51 | 1 | 10 | 1.269 | 2.172 |
| <i>Note.</i> BDI = Beck Depression Inventory; BAI = Beck Anxiety Inventory, PSI = Parenting Stress Index; PAI = Parenting Alliance Inventory, ODD = Oppositional Defiant Disorder Inventory ¹ AD/HD: N = 7 ² Control: N = 11 ⁵ PSI: N=6 ⁶ PAI: N=6 | | | | | | | |

Table 4

Correlations Among Variables

| | Variable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|----|---------------|--------|--------|--------|--------|-------|------|-------|------|------|------|------|-----|-------|
| 1 | DAS Partner 1 | - | | | | | | | | | | | | |
| 2 | DAS Partner 2 | .77** | - | | | | | | | | | | | |
| 3 | NC Partner 1 | -.48* | -.24 | - | | | | | | | | | | |
| 4 | NC Partner 2 | -.56* | -.82** | .21 | - | | | | | | | | | |
| 5 | PC Partner 1 | .53* | .57* | .01 | -.32 | - | | | | | | | | |
| 6 | PC Partner 2 | .33 | .37 | -.30 | -.35 | .60** | - | | | | | | | |
| 7 | DCI Partner 1 | .68** | .56* | -.76** | -.50* | .24 | .38 | - | | | | | | |
| 8 | DCI Partner 2 | .59** | .78** | -.37 | -.89** | .38 | .52* | .63** | - | | | | | |
| 9 | BDI Partner 1 | -.66** | -.65** | .09 | .42 | -.19 | .04 | -.23 | -.26 | - | | | | |
| 10 | BDI Partner 2 | -.19 | -.13 | .27 | .21 | -.10 | .03 | -.16 | -.25 | .14 | - | | | |
| 11 | BAI Partner 1 | -.15 | -.25 | -.01 | .33 | .29 | .12 | .18 | -.26 | .44 | -.09 | - | | |
| 12 | BAI Partner 2 | -.41 | -.42 | .03 | .47* | -.20 | -.13 | -.32 | -.23 | .47* | .23 | -.24 | - | |
| 13 | PSI Partner 1 | .10 | .28 | -.43 | -.17 | .18 | .21 | .11 | .46 | .13 | -.01 | -.56 | .56 | - |
| 14 | PSI Partner 2 | .07 | .31 | -.48 | -.41 | .00 | .16 | .20 | .59* | .20 | -.22 | -.51 | .28 | .81** |

Note. N = 18. DAS = Dyadic Adjustment Score, NC= Negative Coping Score, PC = Positive Coping Score, DCI = Dyadic Coping Inventory Total Score, BDI = Beck Depression Inventory, BAI = Beck Anxiety Inventory, PSI = Parenting Stress Index

* $p < .05$. ** $p < .01$

Table 5

Comparison of Groups on Satisfaction and Dyadic Coping

| Outcome | AD/HD | Control | <i>df</i> | <i>t</i> | <i>p</i> |
|-------------------------|--------|---------|-----------|----------|----------|
| Dyadic Adjustment Scale | 92 | 109.9 | 16 | 3.51 | 0.003 |
| Dyadic Coping Inventory | 123.19 | 137.45 | 16 | 2.14 | 0.047 |

Note. N = 17

Table 6

Mediation Analyses for Satisfaction

| Predictor | β | R^2 | p |
|-------------------------|---------|-------|-------|
| Model 1 | | | |
| Group Membership | -17.28 | .42 | .003 |
| Model 2 | | | |
| Dyadic Coping Inventory | .649 | | <.001 |
| Group Membership | -10.18 | .68 | .028 |

Note. N = 24. R^2 = Cumulative Adjusted R^2 .

Table 7

Mean and Standard Deviations (in Parentheses) for BDI, BAI and ODD within AD/HD Group

| | <i>Husband Report</i> | | | <i>Wife Report</i> | | |
|--------------------------------|-----------------------|------------------|-------------------------|--------------------|-----------------|-------------------------|
| <u>Affected Partner</u> | Depression | Anxiety | Parenting Stress | Depression | Anxiety | Parenting Stress |
| Husband¹ | 13 (11.36) | 16.75 (19.77) | 125.00 (35.79) | 6.33 (4.73) | 7.25 (8.02) | 130.00 (34.51) |
| Wife² | 4.33 (.58) | 3.33 (.578) | 145.67 (21.03) | 11.00 (2.65) | 10.33 (2.31) | 136.33 (16.01) |

Note.

¹Husband: N = 4

²Wife: N = 3

Table 8

Mean and Standard Deviations (in Parentheses) for Outcome Variables within AD/HD Group

| <u>Affected Partner</u> | <i>Husband Report</i> | | <i>Wife Report</i> | |
|------------------------------------|------------------------------|-------------------|---------------------------|-------------------|
| | Satisfaction | Coping | Satisfaction | Coping |
| Husband¹ | 83.667 (13.50) | 114.00 (7.810) | 77.667 (17.79) | 112.33 (26.35) |
| Wife² | 100.33 (12.50) | 121.33 (7.64) | 105.33 (5.69) | 124.67 (13.32) |

Note. ¹Husband: N = 4

²Wife: N = 3